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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/713,161	11/14/2000	Sundaresan Jayaraman	GTRC77	3391

7590

08/29/2003

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EXAMINER

COHEN, LEE S

ART UNIT	PAPER NUMBER
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3739

15

DATE MAILED: 08/29/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/713,161

Applicant(s)

JAYARAMAN ET AL.

Examiner

Lee S. Cohen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-33 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-33 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 1 – the claim is vague in that it is unclear how one fiber can be integrated and the lead is chosen from one of plural fibers. Claim 2 – “the fiber” lacks a clear antecedent. Claims 5 and 6 positively limit the connector; however, claim 1 fails to include the connector as a positive element of the sensor. Thus, it is vague as to whether the connector is indeed an element of the combination. Claims 9-13 are vague since the lead has not been positively connected to the connector. Claim 13 is vague as to how the sensor cooperates with the fiber sensing component of the liner or if they are one and the same element. Claims 14, 15, 20, 21, and 24-31 are rejected for similar reasons as claims 1, 2, 5, 6, and 9-13, supra. In addition, claims 26 and 27 fail to include any monitoring step.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 9, 13, 14, 24, and 26 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Kelly et al (5,507,290). As presently recited, the fabric can include a single fiber.

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The reference clearly discloses such a fiber-based sensor which is mounted on a sensate liner.

Attention is directed to column 5, lines 20-39.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-8, 11, 12, 14-23, and 28-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Collins et al (710,429) in view of Flick (5,374,283). Collins et al clearly disclose the fabric-based sensor (see page 1, line 100 to page 2, line 7). The reference fails to disclose the electrical lead from the conductive fabric as being one of the fibers of the fabric. Flick clearly discloses a similar fabric sensor wherein one of fibers can be the electrical lead (see Figure 4). Given this teaching, it would have been obvious to use one of the fibers of the fabric in Collins et al as the lead to better integrate the structure.

In addition, the use of a snap connector is taught by Flick and the use of conductive paste to secure leads and connectors is notoriously well known in the art. Accordingly, the use of these features in the combination to secure the fiber to a connector would have been obvious design expedients to the skilled artisan to ensure the connection of the elements.

Claims 1-6, 9, 10, 13-21, 24-27, 32, and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Love (3,542,010) in view of Finch (4,848,351). Love clearly discloses the fabric-based sensor (see col. 1, line 71 – col. 2, line 55). The fibers may be impregnated or coated to effect electrical conductivity; however, it is not clear that the impregnation takes place

prior to incorporation into the fabric. Finch clearly discloses a similar fabric which can use metal wires as the fiber (see column 2, lines 29-34) in lieu of coated fibers. Accordingly, the use of metal wires in Love would have been an obvious substitute in light of the equivalency teaching of Finch.

In addition, the use of conductive paste to secure leads and connectors is notoriously well known in the art. Accordingly, the use of the same in the combination to secure the fiber and connector would have been an obvious design expedient to the skilled artisan to ensure the connection of the elements.

Claims 1-10,13-27, 32, and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Allison (4,016,868) in view of Flick (5,374,283). Allison clearly discloses the fabric-based sensor (see column 3, lines 20-27). The reference fails to disclose the electrical lead from the conductive fabric as being one of the fibers of the fabric. Flick clearly discloses a similar fabric sensor wherein one of fibers can be the electrical lead (see Figure 4). Given this teaching, it would have been obvious to use one of the fibers of the fabric in Allison as the lead to better integrate the structure.

In addition, the use of a snap connector is taught by Flick and the use of conductive paste to secure leads and connectors is notoriously well known in the art. Accordingly, the use of these features in the combination to secure the fiber to a connector would have been obvious design expedients to the skilled artisan to ensure the connection of the elements.

Claims 2, 5, 6, 10, 15, 20, 21, 25, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kelly et al (5,507,290) or alternatively Kelly et al (5,507,290) in view of Flick (5,374,283). Kelly fails to disclose the snap connector and the use of conductive paste. The use

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of a snap connector is taught by Flick and the use of conductive paste to secure leads and connectors is notoriously well known in the art. Accordingly, the use of these features in the combination to secure the fiber to a connector would have been obvious design expedients to the skilled artisan to ensure the connection of the elements.

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the features of claims 13, 26, and 27 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The other cited references disclose conductive fiber fabrics.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lee S. Cohen whose telephone number is 703-308-2998. The examiner can normally be reached on Monday-Friday, 7:00-3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Linda Dvorak can be reached on 703-308-0994. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0858.

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A handwritten signature in black ink, appearing to read 'Lee S. Cohen', with a long horizontal flourish extending to the right.

Lee S. Cohen

Primary Examiner

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LSC

August 26, 2003